



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,715	02/10/2004	Nelson Nahum	01472/LH	2802
1933 7590 11/28/2007 FRISHAUF, HOLTZ, GOODMAN & CHICK, PC 220 Fifth Avenue 16TH Floor NEW YORK, NY 10001-7708			EXAMINER CHOI, WOO H	
			ART UNIT 2189	PAPER NUMBER
			MAIL DATE 11/28/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

911

Office Action Summary	Application No. 10/776,715	Applicant(s) NAHUM, NELSON	
	Examiner Woo H. Choi	Art Unit 2189	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-13,15-25,27,29-37 and 39-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-13,15-25,27,29-37 and 39-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1, 3, 5 – 13, 15 – 25, 27, 29 – 37, and 39 – 48 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. All of the independent claims recite the limitation “freezing the selected data object at any desired instant in time”. This limitation does not seem be supported by the specification. The Examiner asks Applicant to provide specific support for this limitation from the specification as originally filed.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 2189

4. Claims 1, 3, 5 – 13, 15 – 25, 27, 29 – 37, and 39 – 48 are rejected under 35 U.S.C. 102(e) as being anticipated by Ohran (US Patent No. 6,397,307).

3. With respect to claims 1, 16 – 18, 20, 25, 40 – 42, and 44, Ohran discloses a method operative for asynchronously mirroring a selected data object from at least one local storage device (SDL) into at least one remote storage device (SDRx), the at least one local storage device being coupled to the first processing facility (HL), and the at least one remote storage device being coupled to a second processing facility (HR), and where the at least one local storage device, the at least one remote storage device, the first and the second processing facility are coupled to a network connectivity comprising pluralities of users, of processing facilities and of storage devices (figure 1), the method comprising the steps of:

running a mirroring functionality running in the first (12) and in the second (14) processing facility (see Figure 3), the mirroring functionality comprising:

a freeze procedure for freezing the selected data object at any desired instant in time (figure 2, T1, T2, T3, snapshots), a copy procedure (col. 8, lines 27 – 45) for copying the frozen selected data object into the at least one remote storage device (figure 1, 24),

permitting use and updating of the selected data object in parallel to running of the mirroring functionality (figure 2), and commanding by default repeated run of the mirroring functionality, unless receiving command for mirroring break (the snapshot and copying functions are performed as default backup operations, unless interrupted), whereby the selected data object residing in the at least one local storage device is copied and sequentially updated into the at least one remote storage device (see figure 3),

Art Unit: 2189

wherein the mirroring functionality further comprises the steps of:

applying the freeze procedure for freezing the selected data object as a source volume (figures 2 and 3),

creating at least one local auxiliary volume (72) to which updates address to the selected data objects are directed, the selected data object corresponding to one of the at least one local auxiliary volume,

creating at least one remote volume (54) in each of the at least one remote storage device, to correspond to each one local auxiliary volume created,

forming in the at least on local storage device, of at least one resulting source volume comprising the frozen selected data object and the at least one local auxiliary volume (20, 22), and

applying the copy procedure for copying the frozen selected data object from the at least one resulting source volume in the at least one remote storage device (see Figures 3 and 4).

4. With respect to claims 3, 5 – 11, 27, 29 – 30, see figure 1 and col. 9, lines 35 – 37.

Snapshot backup operations can be performed on multiple storage devices with each device containing multiple data objects (files, for example), which appear to cover different permutations claimed. Also note that the mirroring operation applies to a single data object (a large logical volume) or all data objects (files) stored in 20 simultaneously.

5. With respect to claims 12 – 13, 15, 19, 22 – 24, 36 – 37, 39, 43, 45 – 48, see rejections of claims 1 above. These claims cover repetitions of claim 1 at different time intervals. Figures 2,

Art Unit: 2189

3 and 4 disclose the claimed operations at sequential time intervals. Synchronization of volumes is disclosed in figure 4 and its corresponding text in the specification.

Response to Arguments

6. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Woo H. Choi whose telephone number is (571) 272-4179. The examiner can normally be reached on M-F, 9:00-5:30.

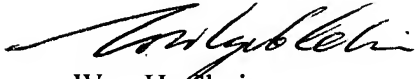
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Reginald Bragdon can be reached on (571) 272-4204. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/776,715

Page 6

Art Unit: 2189

A handwritten signature in black ink, appearing to read 'Woo H. Choi', with a stylized, cursive script.

Woo H. Choi

November 19, 2007